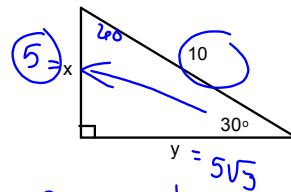


$$\tan A = \frac{\text{opp}}{\text{adj}}$$

7.6/7.7 (Continued)

The Sine and Cosine Ratios



$$\cos 60 = \frac{1}{2}$$

$$\cos = \frac{\text{adj}}{\text{hyp}}$$

$$\sin 30 = \frac{1}{2}$$

$$\sin 30 = \frac{5}{10}$$

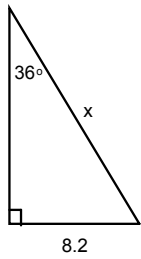
$$\sin = \frac{\text{opp}}{\text{hyp}}$$

$$\sin = \frac{\text{opposite}}{\text{hypotenuse}}$$

$$\cos = \frac{\text{adjacent}}{\text{hypotenuse}}$$

$$\tan = \frac{\text{opposite}}{\text{adjacent}}$$

SOHCAHTOA

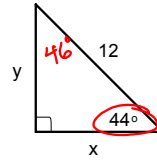


$$\sin 36 = \frac{8.2}{x}$$

$$x \cdot \sin 36 = 8.2$$

$$x = \frac{8.2}{\sin 36}$$

$$x \approx 14.0$$

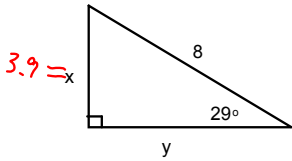


$$\cos 44 = \frac{x}{12}$$

$$8.6 \approx x$$

$$\sin 44 = \frac{y}{12}$$

$$y \approx 8.3$$



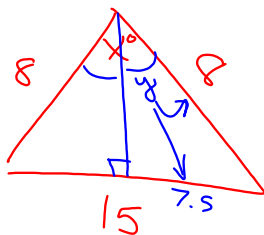
$$\sin 29 = \frac{x}{8}$$

$$x \approx 3.9$$

$$\cos 29 = \frac{y}{8}$$

$$y \approx 7.0$$

Find the vertex angle of an isosceles triangle with legs of length 8, and a base of length 15.



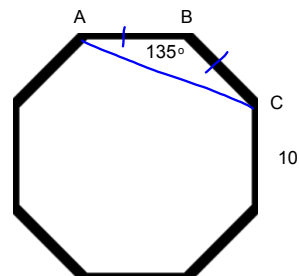
$$\sin y = \frac{7.5}{8}$$

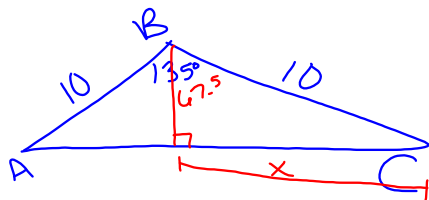
$$\sin^{-1}\left(\frac{7.5}{8}\right) = y$$

$$y \approx 69.6^\circ \times 2$$

$$139.3^\circ$$

Regular octagon  
Find AC.





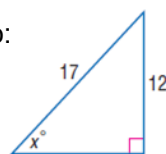
$$\sin 67.5 = \frac{x}{10}$$

$$x = 9.2$$

$$AC = 18.5$$

Do:

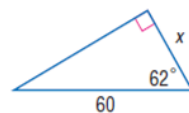
1.



$$\sin x = \frac{12}{17}$$

$$x \approx 44.9^\circ$$

2.

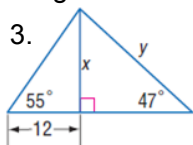


$$\cos 62 = \frac{x}{60}$$

$$28.2 \approx x$$

Do together:

3.



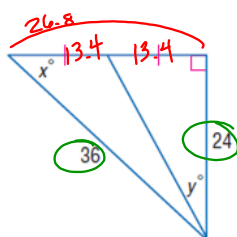
$$\tan 55 = \frac{x}{12}$$

$$x \approx 17.7$$

$$\sin 47 = \frac{17.7}{y}$$

$$y \approx 23.4$$

4.



$$36^2 = 24^2 + z^2$$

$$26.8 \approx z$$

$$\sin x = \frac{24}{36} \quad \left. \begin{array}{l} \tan y = \frac{13.4}{24} \\ y \approx 29.2^\circ \end{array} \right\} \quad x \approx 41.8^\circ$$

HW

p477-479

10-15, 30, 36a

p486

6-8, 14, 15